

SCI ROAD TEST

'59 CORVETTE



Banked track hides considerable roll as Zora Arkus-Duntov places Corvette close in.

WITH EACH ANNUAL change, Zora Arkus-Duntov, the Corvette's godfather, has emphasized performance improvements. His theory is that to sell, the Corvette must first go. Styling has had its innings, too, but they have acted with more restraint than one expects from Detroit.

Perhaps in acknowledgement to the discriminatory taste of the sports car market, external changes for '59 were of a customizing nature only. The washboard-like, phony louvers on the hood and the Pontiac-like silver streaks on the trunk lid are now things of the past. Inside, there are recontoured seat cushions, a reverse lock on the four-speed's shift lever and an open-at-the-top catch-all which fills the opening in front of the "sissy-bar". Also the door-knob and arm-rest have been moved. Engineering changes at the rear include newly added longitudinal radius rods to prevent axle wind-up and re-arranged and recalibrated shock absorbers.

In discussing the new seats with Mr. Duntov, he pointed out that this is one of the most difficult compromises to make in a high-performance car. "In a racing car, the seat is 100% for working, just like a stool by a lathe. But in a passenger car, you're lucky if it's a 'work chair' more than 10% of the time. It must be easy to get in and out of, and comfortable for lounging in. The high sides of a real bucket seat are just right for holding you in place but they don't meet these other requirements."

Opening the trunk, later, we discovered an experimental seat cushion. We tried it and found it lets you sit a lot lower, accentuating the side support of the cushion edges and increasing headroom, too. The secret is foam rubber in place of the usual coil springs, the drawback is that it bottoms out too quickly on large bumps — sooner than the suspension. Oh, well, back to the drawing board.

Commenting on the door handles, Mr. Duntov pointed out that after driving Cor-

vettes for thousands of miles on the Proving Grounds, he decided to move them forward during a visit to Riverside, California when he had to borrow a raincoat (?). The one he got had cinch-straps on the sleeves and he kept opening the door when turning left!

The sissy bar is unfairly named, it's really quite the thing for hanging on when the driver is trying to prove something or other. The trash tray appeals to us, too, though others have condemned it as unsafe. We suspect that someone must have been road testing with their knees tucked under their chin because it just isn't that low.

The world's largest producer of automobiles, Chevrolet offers not just a wide range of models, but a staggering array of optional equipment on each model. As on the sedans, so on the Corvettes. Five variations on the 283 V8 theme are offered, three transmissions (two, three, and four speeds), four final-drive ratios, three brake lining choices and two suspensions, just to name the mechanical ones.

There is some interlocking involved, for instance, you can't order the Positraction limited slip differential with Powerglide; the latter must have the 3.55/1 rear end and cannot have the 290 hp version of the Fuel Injection engine. On the other hand, the stiff suspension is available only in combination with the latter engine and Positraction.

For this test, the editors of SCI checked through the list of equipment options, nominating those we thought would add up to the most desirable all-around Corvette that you can buy. We had in mind, not the all-out racing version sampled in the December issue but a happy compromise that would be suited to both serious traffic and casual racing.

Having carefully selected our list, we were pleasantly surprised to find that the Chevrolet Division could put such a sample at our disposal immediately. Seems a fellow

named Arkus-Duntov has a company car fitted out identically but for one exception. His car also has the quick-steering adaptor (3.25 instead of 3.7 turns lock to lock). Generally available only as part of the heavy-duty suspension kit, it's worthwhile on its own if you can stand the noticeably stiffer steering. And if you can get it.

Omitted from our list were the heavy-duty brake and suspension kits. For 1959, the heavy duty suspension features much stiffer springs than last year. In pounds-per-inch, the spring rate on the standard suspension, last year's HD kit and this year's are, respectively, 300, 340, and 550 at the front and 115, 125 and 145 at the rear. Though the kit's anti-roll bar diameter remains at 1 13/16-inches, the vast increase in spring stiffness contributes to both much flatter turns and much harsher bouncing. Nice for racing only, but not for the all-around usage we have in mind.

Corvette cornering has been the butt of many rude remarks by the anti-roll brigade. Duntov had interesting thoughts on this matter too. "For flat, smooth courses, such as Le Mans or Sebring," he said, "the heavy duty suspension option is very effective. But because it is so much stiffer, especially in roll, it would actually be a hindrance on a bumpy circuit such as the Nürburgring." An interesting thought, and interesting examples, too.

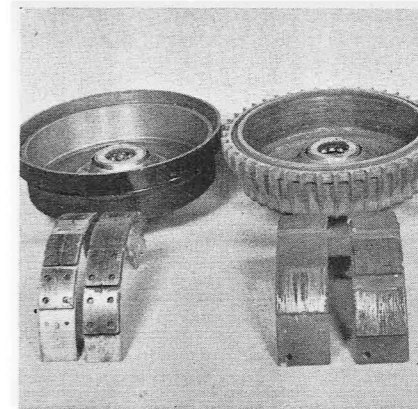
With so much power so freely available, rapid cornering necessarily becomes a maneuver requiring careful control of all the elements involved.

Though a stiffer anti-roll bar would reduce the independency of the front end, the reduction in roll would certainly promote more driver security. The experimental seats helped, so did the seat belts.

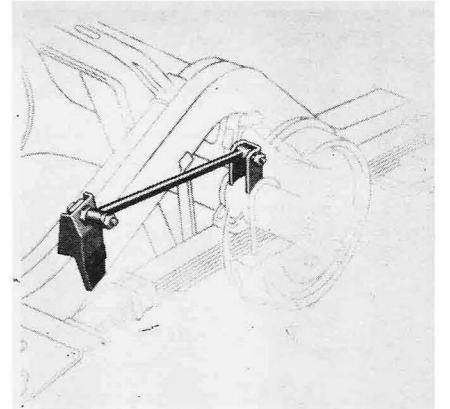
The steering, stiff for parking, was fine for controlling incipient slides, but as before, we found the throttle linkage much too sensitive. As a result, the car again appears to have two personalities. Either you motor sedately (though deceptively



Re-shaped seats increase lateral support.



Left, sintered linings; right, Cerametalix.



Axle wind-up prevented by radius rods.

quickly) through a corner, or pressing on somewhat, you're herding an untamed beast, one which responds more to the throttle than the wheel, and rather violently, at that.

In making up our list, the Cerametalix brake linings lost out as being entirely unsuited to highway use. When cold, they grab violently and erratically. Besides, they come only with the HD suspension.

Using regular drums, the sintered metallic brake linings at only \$26.90 are so good and so cheap that they should be standard equipment. Though the 15° F. temperature during our test helped their heat dissipation, it gave us a chance to prove that they have no nasty habits when cold. Being inorganic, they don't soak up water either.

Flared drums, standard on all Chevis this year, have a bell rim-like flange which helps scoop air in from the inboard side. Between these and the linings, we repeatedly made stops from 90 and over without a trace of fade or increase in pedal travel. Pedal pressure, though, is higher than with organic (asbestos) linings. Running against a mild breeze, we managed zero to 100 mph and back to a standstill in 26.4 seconds, a figure that could be improved upon with experience.

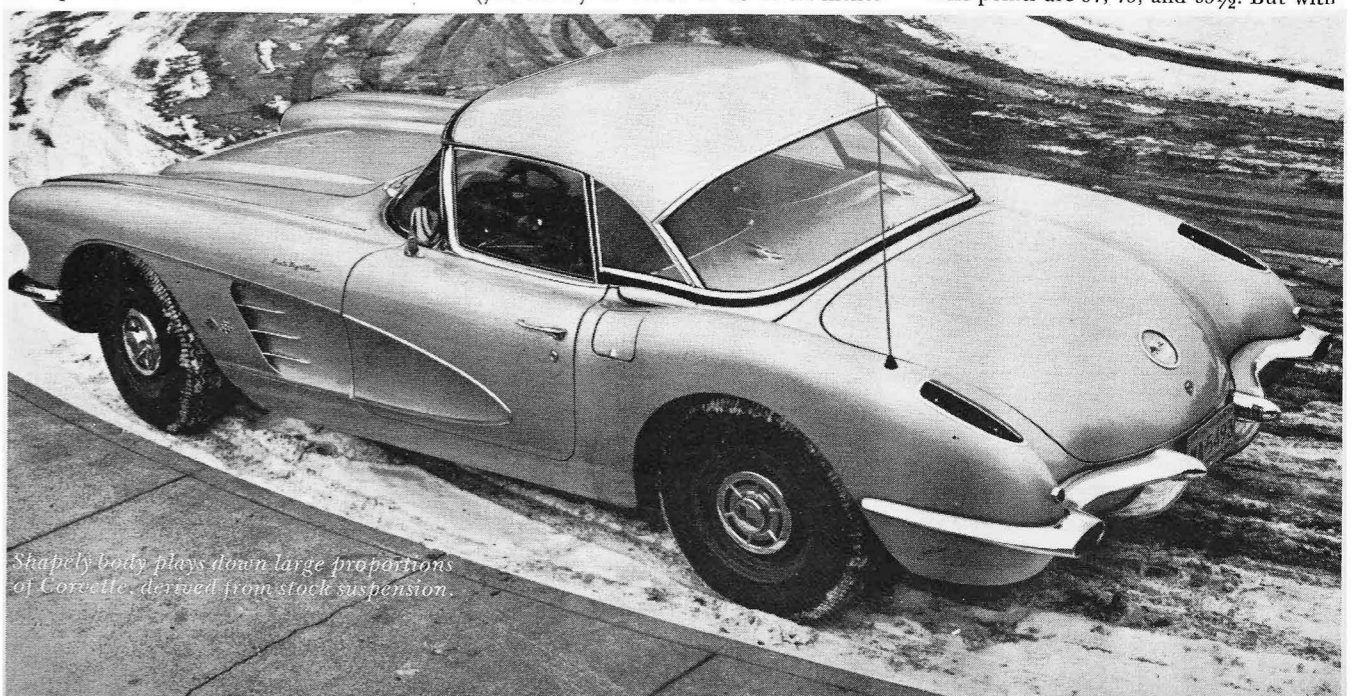
Though it runs \$484.20 more than the standard engine, we were anxious to see what the fuel-injected, hot cam V8's 290 horsepower felt like in a roadable Cor-

vette. To its great credit, it must be mentioned that cornering antics have no effect whatsoever on throttle response. This is in great contrast to quad-equipped cars, whether single or dual. They will just plain quit in the middle of a hard corner.

Racer Brown's chart (see Part II of his article in next month's issue) indicates that the all-out dual-quad version boasts better output than FI-cars at the top end. However, the ability of the latter to mix correct quantities of fuel and air, no matter what the car's gyrations or speed, assures it of better lap times on any circuit.

That one Corvette is not the same as another is evident from the variety of options. What comes as a considerable surprise is the dualistic personality of the particular car tested. In the twinkling of a throttle linkage, it turns from a submissive, sidewalk stalker to a fierce, roaring eater-upper of metallic monsters. Just as quickly, it reverts to silent smoothness, its exhaust murmuring, barely audibly, "Who, me?"

This high output engine enjoys such tractability that it will pull smoothly from its 750 rpm warm idle in fourth gear. No flat spots, no hesitation, and no matter how fast you mash the throttle. Just to rub it in, you can start from rest in any gear whatsoever without stalling and with hardly a thought of the clutch lining. Strangely, starts in first gear seem equally touchy. Seems the "fast" clutch linkage (you have your choice of 4.5 or 6.4 inches



Shapely body plays down large proportions of Corvette, derived from stock suspension.

the 3.70's, they change to 63, 83, and 106. The elimination of one shift and the necessary, though slight pause more than makes up for the lessened torque multiplication.

We thought our car went pretty good, even if it does cost twice as much as the Chev "315" tested in our January issue. But a recent letter from Don Gist of Lake Worth, Florida shows what can be done. Similar to this test car but without the weighty non-essentials and using the 4.56 Positraction rear end plus the following modifications, he has recently recorded a standing quarter in 12.57 seconds, completing it at over 109 mph! The changes he mentions are Traction Masters (his is a '58 model), open exhausts, an aluminum flywheel, Packard 440 wiring, 7.60 x 15

Bruce Slicks and the all-important flywheel shield. He adds, that the engine was "properly tuned." Uh-hunh.

If you want a particular kind of Corvette, pick out the options you want and GM'll make it. If they haven't the options you want, your local speed shop will.

If your interests lie in drag-racing, by all means pick the 4.56. If road-racing is more your style, then you'll probably want either the 3.70 or the 4.11, depending on which course you're running. Remember, 6500 in top corresponds to 139, 125, and 113 mph respectively with the 3.70, 4.11, 4.56 ratios.

For straight highway use, the 3.70, which we would now prefer, will provide the minimum of engine noise with plenty of acceleration. And if the chips are down,

you can always use the gearbox. The 3.70 might improve gas mileage, but a lighter foot would help more.

On the luxury side, we chose the station seeking push-button radio (\$149.80), the heater-defroster (\$102.25), windshield washers (\$16.15) and, sybarites to the end, both the folding canvas top and the removable hardtop (\$236.75). Added to the \$3875.00 base price, the total climbs to \$5127.80; transportation and state and local tax are extra.

It's not a low price car, and it's none too cheap to operate, but it goes well, it stops well, and with reservations, it corners well, too. For all around performance per dollar, the Corvette is hard to beat.

—Stephen F. Wilder

'59 CHEVROLET CORVETTE

PERFORMANCE

TOP SPEED:

Estimated 125 mph

ACCELERATION:

From zero to	seconds
30 mph	3.2
40 mph	4.2
50 mph	5.2
60 mph	6.6
70 mph	7.9
80 mph	10.1
90 mph	12.3
100 mph	15.6
Standing ¼ mile	14.9
Speed at end of quarter	98 mph

SPEED RANGE IN GEARS:

(700-6500 rpm, 7000 permissible)

I	0-57 mph
II	8-75
III	11-96
IV	14-125

SPEEDOMETER CORRECTION:

Indicated Speed	Timed Speed	Indicated Speed	Timed Speed
30	29½	70	65
40	38	80	74
50	47	90	83
60	56	100	92

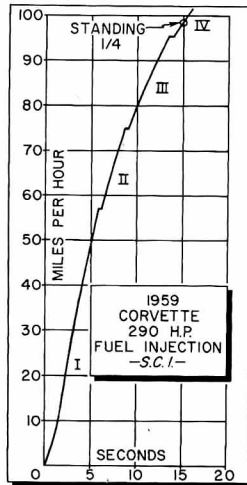
FUEL CONSUMPTION:

Hard driving 10 mpg

SPECIFICATIONS

POWER UNIT:

Chevrolet 283-FI	Water-cooled V-8
Valve Operation	Pushrods and stamped rockers
Bore & Stroke	3.875 x 3.00 in. (98.4 x 76.2 mm)
Stroke/Bore Ratio	0.774/1
Displacement	283 cu. in. (4640 cc)
Compression Ratio	10.5/1
Carburetion by	Rochester fuel injection
Max. Power	290 bhp @ 6200 rpm
Max. Torque	290 lbs.-ft. @ 4400 rpm
Idle Speed	750 rpm



DRIVE TRAIN:

Transmission ratios	test car	optional ratio
I	2.20	(2.21)
II	1.66	(1.32)
III	1.31	(1.00)
IV	1.00	
Final drive ratio	4.11	(3.70, 4.56)
Axle torque taken by	rear springs and radius rods	

CHASSIS:

Frame	Welded box section side members, I-beam X-member, box section front and rear cross members
Wheelbase	102 in.
Tread, front and rear	57, 59 in.
Front Suspension	Unitized, independent, coil springs and unequal wishbones, 1 3/16" dia. anti-roll bar.
Rear Suspension	Rigid rear axle housing, semi-elliptic leaf springs, upper radius rods
Shock absorbers	Delco telescopic, 1 3/8 in. piston diameter
Steering type	Saginaw worm and ball bearing sector, 16.3/1 ratio
Steering wheel turns L to L	3.25
Turning diameter, curb to curb	37 ft.
Brakes	Sintered metallic linings in composite drums with cast iron rim, pressed steel web
Brake lining area	108 sq. in.
Tire size	6.70 x 15
Rim size	5.0 x 15

GENERAL:

Length	177 in.
Width	73 in.
Height	51 1/2 in.
Weight, as tested	3400 lbs.
curb (factory figure)	3092 lbs.
Weight distribution, F/R as tested	53/47
Fuel capacity	16.4 U.S. gallons

RATING FACTORS:

Specific Power Output	1.02 bhp/cu. in.
Power to Weight Ratio, laden	11.7 lbs./hp
Piston speed @ 60 mph	1560 ft./min.
Braking Area per ton, laden	63.6 sq. in./ton
Speed @ 1000 rpm in top gear	19.2 mph

